

WHAT IS CLAIMED:

1. A semiconductor storage device comprising:

a memory cell transistor having a first diffused layer and a second diffused layer formed in a semiconductor substrate, and a gate electrode formed over the semiconductor substrate between the first diffused layer and the second diffused layer with a gate insulation film interposed therebetween;

an insulation film covering a top of the memory cell transistor and having a through-hole opened on the first diffused layer and an opening surrounding the through-hole, the opening having a larger diameter than the through-hole and not reaching the semiconductor substrate;

a capacitor storage electrode formed on an inside wall and a bottom of the opening and electrically connected to the first diffused layer;

a capacitor dielectric film formed covering the capacitor storage electrode; and

a capacitor opposed electrode formed covering the capacitor dielectric film.

2. A semiconductor storage device according to claim 1, wherein

the capacitor storage electrode includes a columnar conductor buried in the through-hole and projected in the opening.

3. A semiconductor storage device according to claim 1, wherein the insulation film is formed of a laminated film of two or more films laid one on another, and the adjacent films have different etching characteristics from each other.